

Table E1. Hazard ratios (HR), accompanied with 95% confidence intervals (95% CI) stratified for baseline age, number of exacerbations and hospitalizations during year 1

	Hazard Ratio (95% CI)		
	Improvement vs. No change	No change vs. Deterioration	Improvement vs. Deterioration
Age ≤ 64 years			
Survival	1.70 (0.67-4.30)	0.29 (0.13-0.65)	0.46 (0.22-0.94)
Hospitalization	0.92 (0.67-1.25)	0.82 (0.59-1.13)	0.74 (0.54-1.03)
Exacerbation	1.04 (0.86-1.25)	0.75 (0.62-0.92)	0.77 (0.63-0.93)
Age > 64 years			
Survival	0.93 (0.53-1.62)	0.82 (0.48-1.41)	0.76 (0.44-1.33)
Hospitalization	0.76 (0.44-1.32)	0.75 (0.56-1.02)	0.72 (0.53-0.97)
Exacerbation	0.82 (0.68-1.01)	0.94 (0.77-1.15)	0.77 (0.63-0.94)
0-1 exacerbations			
Survival	1.13 (0.63-2.02)	0.55 (0.32-0.97)	0.62 (0.36-1.06)
Hospitalization	1.02 (0.75-1.40)	0.71 (0.51-0.97)	0.72 (0.53-0.98)
Exacerbation	0.98 (0.82-1.17)	0.79 (0.66-0.95)	0.76 (0.64-0.92)
≥ 2 exacerbations			
Survival	0.92 (0.40-2.12)	0.65 (0.31-1.37)	0.60 (0.28-1.30)
Hospitalization	0.93 (0.68-1.26)	0.88 (0.65-1.19)	0.82 (0.60-1.11)
Exacerbation	1.02 (0.82-1.26)	1.02 (0.82-1.26)	1.03 (0.83-1.28)
0 hospitalizations			
Survival	1.02 (0.59-1.77)	0.62 (0.36-1.05)	0.62 (0.37-1.05)
Hospitalization	0.94 (0.72-1.23)	0.78 (0.59-1.02)	0.73 (0.56-0.95)
Exacerbation	0.94 (0.76-1.17)	0.83 (0.71-0.97)	0.77 (0.66-0.90)
≥ 1 hospitalizations			
Survival	1.25 (0.48-3.24)	0.57 (0.25-1.31)	0.71 (0.31-1.61)
Hospitalization	0.97 (0.66-1.44)	0.91 (0.63-1.33)	0.88 (0.61-1.29)
Exacerbation	0.99 (0.71-1.37)	1.06 (0.78-1.46)	1.02 (0.74-1.14)

Bold printed numbers represent significant ($p \leq 0.05$) results.

Table E2. Hazard ratios (HR), accompanied with 95% confidence intervals (95% CI) for SGRQ domain scores

	Hazard Ratio (95% CI)		
	<i>Improvement vs. No change</i>	<i>No change vs. Deterioration</i>	<i>Improvement vs. Deterioration</i>
	SGRQ symptom domain		
Survival	0.63 (0.37-1.07)	0.89 (0.55-1.42)	0.57 (0.37-0.88)
Hospitalization	0.79 (0.62-1.00)	1.07 (0.84-1.36)	0.85 (0.69-1.05)
Exacerbation	0.77 (0.66-0.90)	1.10 (0.94-1.28)	0.85 (0.75-0.97)
SGRQ activity domain			
Survival	0.86 (0.53-1.39)	0.80 (0.52-1.24)	0.69 (0.44-1.07)
Hospitalization	0.85 (0.68-1.07)	0.94 (0.75-1.16)	0.80 (0.64-0.99)
Exacerbation	0.85 (0.74-0.98)	1.03 (0.90-1.19)	0.88 (0.77-1.01)
SGRQ impact domain			
Survival	0.99 (0.62-1.59)	0.75 (0.48-1.19)	0.74 (0.48-1.14)
Hospitalization	1.11 (0.88-1.39)	0.71 (0.57-0.89)	0.78 (0.63-0.96)
Exacerbation	1.16 (1.01-1.33)	0.75 (0.65-0.87)	0.87 (0.76-0.99)

Bold printed numbers represent significant ($p \leq 0.05$) results.

Table E3. Baseline patient characteristics: ≤ 64 years vs. > 64 years

	Age ≤ 64 years N = 969	Age > 64 years N = 863
Age, years	58.0 (4.9)	69.4 (3.0) **
Male, n (%)	584 (60.3)	615 (71.3) **
Current smokers, n (%)	426 (44.0)	233 (27.0) **
BMI, kg/m ²	26.5 (6.1)	26.6 (5.2)
FEV ₁ , % predicted	48.4 (16.0)	49.0 (15.3)
FEV ₁ , liters	1.4 (0.5)	1.3 (0.5) **
FVC, liters	3.1 (0.9)	2.9 (0.8) **
FEV ₁ /FVC (%)	45.5 (11.8)	44.3 (11.2) *
Exacerbations, n	0.9 (1.2)	0.8 (1.3)
6MWD, meters	392 (120)	361 (116) **
mMRC dyspnea score (%)	1.6 (1.0)	1.7 (1.1) *
BODE index, points	3.0 (2.1)	3.1 (2.1)
CES-D score, points	12.0 (10.1)	10.2 (8.1) **
FACIT score, points	34.6 (10.6)	36.3 (10.6) *
SGRQ symptom score, points	62.2 (21.8)	57.7 (20.8) **
SGRQ activity score, points	61.7 (22.4)	61.8 (21.3)
SGRQ impact score, points	36.6 (19.3)	34.3 (19.3) *
SGRQ total score, points	48.5 (18.5)	46.5 (18.0) *

Values expressed as mean (standard deviation (SD) or number of patients (n), proportion

(%). Abbreviations: BMI, body mass index; FEV₁, forced expiratory volume in the first

second; FVC, forced vital capacity; 6MWD, 6-minute walk distance; mMRC, modified

Medical Research Council dyspnea scale; BODE, body-mass index, airway obstruction,

dyspnea, and exercise tolerance; CES-D, Center for Epidemiologic Studies Depression